

Date: Tuesday, 20/01/2009 8:52:34 AM
 User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : TUNNEL BOTTOM PANEL
 Job Number : 44940
 Estimate Number : 13026
 P.O. Number :
 This Issue : 20/01/2009 S.O. No. :
 Prsht Rev. : NC
 First Issue : // Type : SMALL /MED FAB
 Previous Run : 42038
 Written By :
 Checked & Approved By :
 Comment : Est Rev:A New Issue 07-09-26 EC verified by: DD
 Est Rev:B ECN 1113P 08-01-22 DD verified by: EC
 Est Rev:C Ecn1162 08-04-02 DD verified by:EC

Part Number : D3649041
 Drawing Number : D3649 REV.B
 Project Number : N/A
 Drawing Revision : B
 Material :
 Due Date : 27/01/2009 Qty: 4 Um: Each

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M304S26GA	304/316 0.018 SHEET
Comment: Qty.: 6.3725 sf(s)/Unit Total : 25.4898 sf(s) 304/316 SS sheet 26 ga (0.018" thick) Batch: <u>109389</u> <u>B 9-1-21</u>		
2.0	WATER JET	FLOW WATER JET
Comment: FLOW WATER JET 1-Cut as per Dwg D3649 Dwg Rev: <u>B</u> <u>B 9-1-21</u> Prog Rev: <u>B</u> 2-Deburr if necessary <u>B 9-1-21</u>		
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE		
4.0	QC8	SECOND CHECK
Comment: SECOND CHECK		
5.0	BRAKE NC	NC BRAKE
Comment: NC BRAKE Form as per Dwg D3649		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 20/01/2009 8:52:34 AM
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Drawing Name: TUNNEL BOTTOM PANEL

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Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/02/02 (X4)

7.0

MS210603K

Nut Plate



Comment: Qty.: 22.0000 Each(s)/Unit Total : 88.0000 Each(s)
Nut Plate M109371 (72)

M109590 (16)

Ep09/02/03

8.0

MS210623K

Nut Plate



Comment: Qty.: 22.0000 Each(s)/Unit Total : 88.0000 Each(s)
Nut Plate M109513 (75)

M109590 (13)

Ep09/02/03

9.0

MS20427M33

Rivet



Comment: Qty.: 88.0000 Each(s)/Unit Total : 352.0000 Each(s)
Rivet M110022

Ep09/02/03

10.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1- Form dimple for MS20427M3 rivet per dwg D3649
*****ensure dimples are on the proper side*****

2-Assemble nutplates as per dwg D3649

Ep09/02/03 (1)

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/02/03 (X4)

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and stock
Location: 57190

Ep09/02/03 (4)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 20/01/2009 8:52:34 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUNNEL BOTTOM PANEL

Job Number: 44940

Part Number: D3649041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC21

FINAL INSPECTION/W/O RELEASE



09/02/04 J

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



u 09.02.04

DART AEROSPACE LTD		Work Order: 44940
Description: Tunnel Bottom Panel		Part Number: D3649-1
Inspection Dwg: D3649	Rev: B	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.004/-0.001	.100	x			
Ø0.196	+0.005/-0.001	.200	x			
Ø0.250	+0.005/-0.001	.254	x			
0.400	+/-0.010	.401	x			
0.385	+/-0.010	.385	x			
0.250	+/-0.010	.249	x			
44.57	+/-0.030	44.57	x			
11.70	+/-0.030	11.684	x			
3.370	+/-0.030	3.369	x			
13.76	+/-0.030	13.76	x			
4.300	+/-0.010	4.299	x			
10.11	+/-0.030	10.107	x			
12.90	+/-0.030	12.90	x			
16.61	+/-0.030	16.61	x			
15.80	+/-0.030	15.80	x			
3.950	+/-0.010	3.950	x			
0.42	+/-0.030	.415	x			
0.41	+/-0.030	.41	x			
0.85	+/-0.030	.871	x			
19.64	+/-0.030	19.64	x			
0.54	+/-0.030	.541	x			
1.400	+/-0.010	1.398	x			
2.63	+/-0.030	2.622	x			
2.93	+/-0.030	2.920	x			
1.49	+/-0.030	1.490	x			
5.98	+/-0.030	5.979	x			
0.54	+/-0.030	.538	x			
2.20	+/-0.030	2.204	x			
2.75	+/-0.030	2.750	x			
2.48	+/-0.030	2.467	x			

DART AEROSPACE LTD		Work Order: 44940
Description: Tunnel Bottom Panel		Part Number: D3649-1
Inspection Dwg: D3649	Rev: B	Page 2 of 2

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.16	+/-0.030	1.165	✓			
3.38	+/-0.030	3.375	✓			
2.00	+/-0.030	1.997	✓			
0.90	+/-0.030	.900	✓			
16.64	+/-0.030	16.64	✓			
0.48	+/-0.030	.468	✗			
13.80	+/-0.030	13.80	✓			
0.46	+/-0.030	.458	✗			
11.76	+/-0.030	11.734	✗			
1.23	+/-0.030	1.218	✗			
0.88	+/-0.030	.862	✗			
18.46	+/-0.030	18.46	✓			
5.23	+/-0.030	5.227	✓			
1.932	+/-0.010	1.936	✗			
1.943	+/-0.010	1.945	✗			
5.02	+/-0.030	5.015	✗			
1.820	+/-0.010	1.823	✗			
0.70	+/-0.030	.70	✓			
2.100	+/-0.010	2.105	✓			
2.33	+/-0.030	2.328	✗			
0.94	+/-0.030	.936	✗			
3.30	+/-0.030	3.288	✗			
1.900	+/-0.010	1.902	✗			
0.61	+/-0.030	.612	✗			

Measured by: JB	Audited by: S	Prototype Approval:	N/A
Date: 9-1-21	Date: 09/01/22	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.04.17	New Issue P/O D3649-041	KJ/DD	DA

8 7 6 5 4 3 2 1

D

D

C

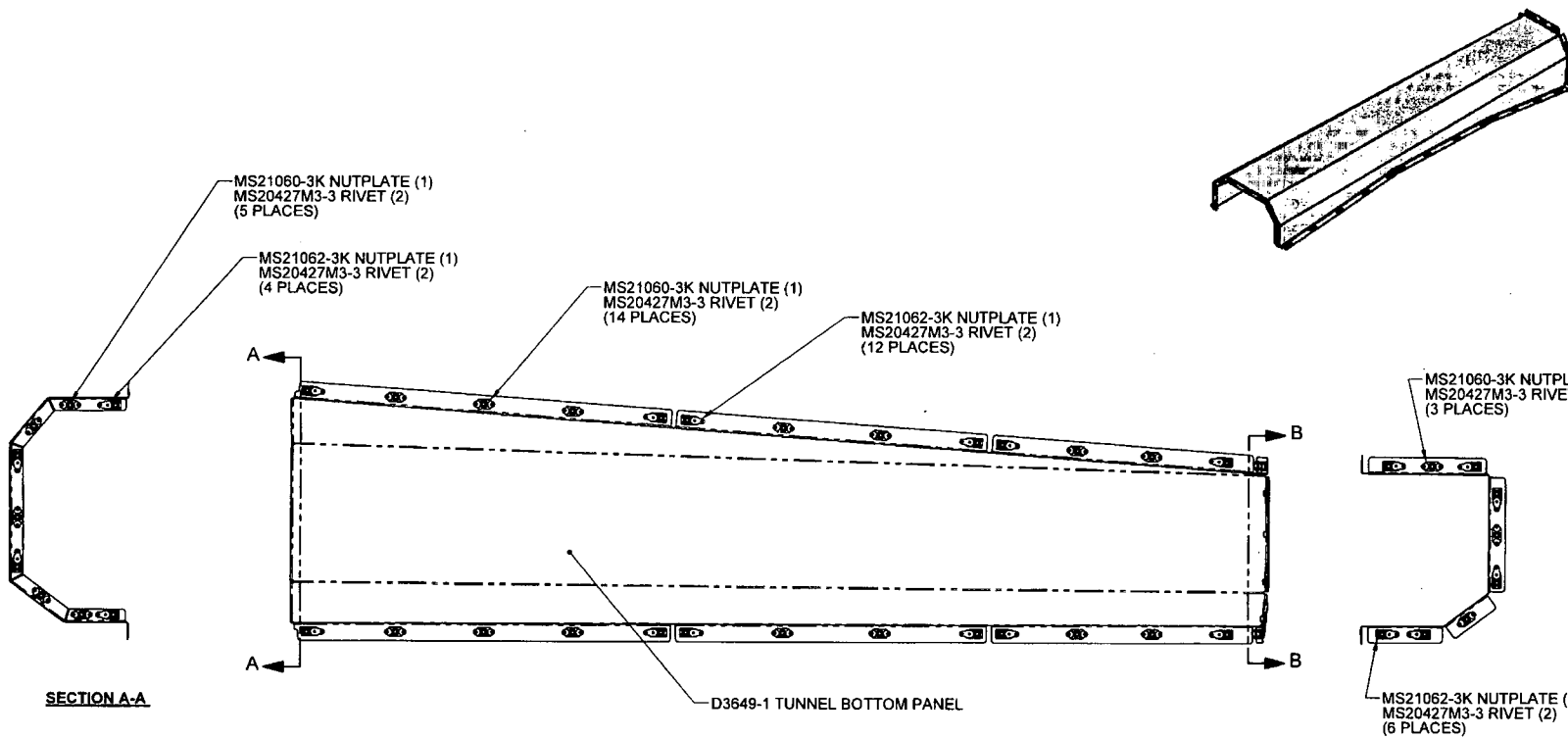
C

B

B

A

A



SECTION A-A

SECTION B-B

D3649-041 BOTTOM PANEL ASSEMBLY

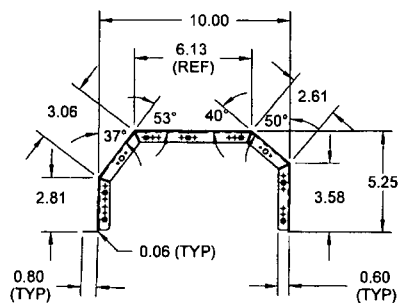
RELEASED
28.03.24/11

PART LIST

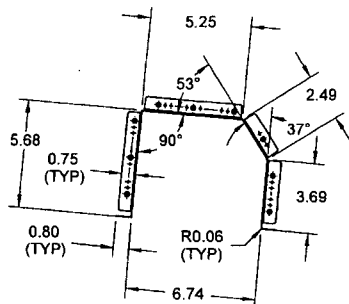
QTY -041	PART NUMBER	DESCRIPTION
X	D3649-041	TUNNEL BOTTOM PANEL ASSY.
1	D3649-1	TUNNEL BOTTOM PANEL
88	MS20427M3-3	RIVET
22	MS21060-3K	NUTPLATE
22	MS21062-3K	NUTPLATE

Handwritten signature/initials

B	PAGE 3: MS20427M3 WAS MS20427M-3	RF	08.01.07
A	NEW ISSUE	RF	07.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	IE	DRAWING NO.	REV. B
MFG. APPR.	AS	D3649	SHEET 1 OF 3
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	BOTTOM PANEL ASSEMBLY	1:5
DATE	08.01.07	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



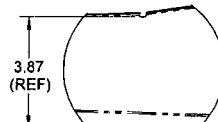
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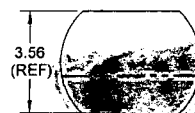
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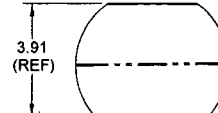
DETAIL E



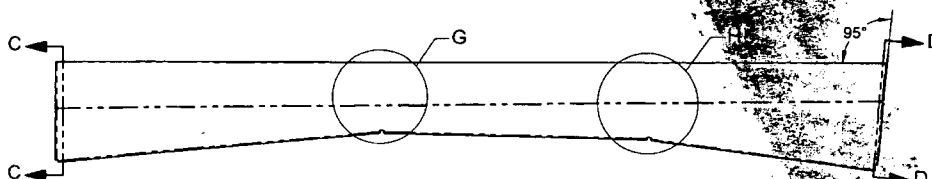
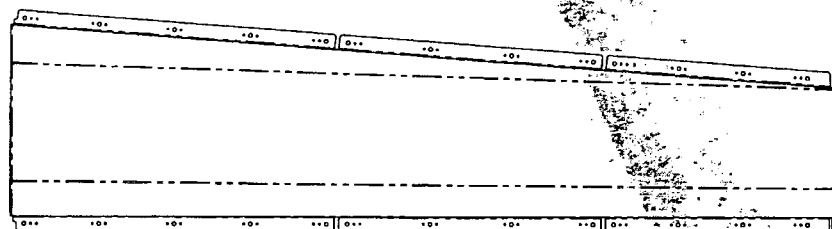
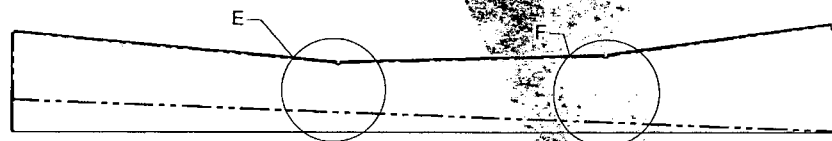
DETAIL F



DETAIL G



DETAIL H



D3649-1 TUNNEL BOTTOM PANEL
(MAKE FROM D3649-1F)

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.		D3649	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BOTTOM PANEL ASSEMBLY	1:6
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